

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6026

Exide Technologies, Sumner Distribution Center

September 2009

SUMMARY

PURPOSE of this Fact Sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed State Waste Discharge permit for Exide Technologies Sumner Distribution Center (Exide) that will allow the discharge of wastewater to the City of Sumner Publicly Owned Treatment Works (POTW).

State law requires any industrial facility to obtain a permit before discharging waste or chemicals to waters of the state. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into waters of the state.

A State Waste Discharge permit limits the types and amounts of pollution the facility may discharge. Ecology bases those limits either on (1) the pollution control or wastewater treatment technology available to the industry, or on (2) the effects of the pollutants to the POTW (local limits).

PUBLIC ROLE in the Permit

Ecology makes the draft permit and fact sheet available for public review and comment at least 30 days before we issue the final permit to the facility operator. Copies of the fact sheet and draft permit for Exide, State Waste Discharge permit ST 6026, are available for public review and comment from September 16, 2009, until the close of business October 15, 2009. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement**.

Before Ecology published the draft State Waste Discharge permit, Exide, reviewed it for factual accuracy. Ecology corrected any errors or omissions about the facility's location, product type or production rate, discharges or receiving water, or its history.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this Fact Sheet as **Appendix D - Response to Comments**, and publish it when we issue the final State Waste Discharge permit. The rest of the fact sheet will not be revised, but the full document will become part of the legal history contained in the facility's permit file.

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I. INTRODUCTION

The legislature defined Ecology's authority and obligations for the wastewater discharge permit program in 90.48 RCW (Revised Code of Washington).

Ecology adopted rules describing how it exercises its authority:

- State Waste Discharge Program (Chapter 173-216 Washington Administrative Code [WAC])
- Submission of Plans and Reports for Construction of Wastewater Facilities (Chapter 173-240 WAC)

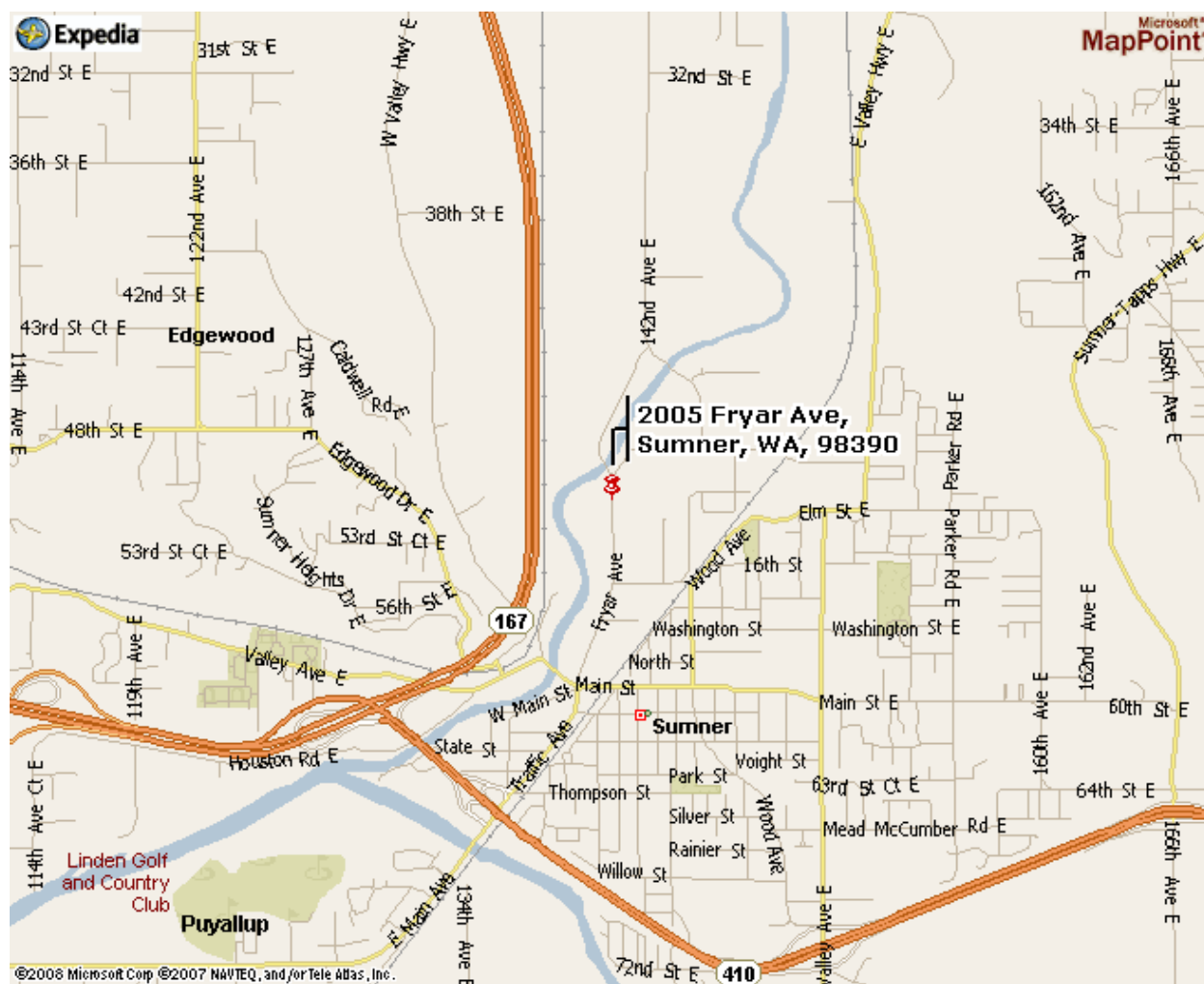
These rules require any industrial facility operator to obtain a State Waste Discharge permit before discharging wastewater to state waters. This rule includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. They also help define the basis for limits on each discharge and for other performance requirements imposed by the permit.

Under the State Waste Discharge permit program and in response to a complete and accepted permit application Ecology must prepare a draft permit and accompanying fact sheet, and make it available for public review before final issuance. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a period of 30 days. (See **Appendix A--Public Involvement** for more detail about the Public Notice and Comment procedures). After the Public Comment Period ends, Ecology may make changes to the draft State Waste Discharge permit in response to comment. Ecology will summarize the responses to comments and any changes to the permit in **Appendix D**.

Table 1 - General Facility Information

Applicant:	Exide Technologies 13000 Deerfield Parkway Alpharetta, GA 30004
Facility Name and Address:	Exide Technologies Sumner Distribution Center (Exide) 2005 Fryar Avenue Sumner, WA 98390
SIC Codes and Type of Facility:	SIC Code 3691: Manufacture of Lead Acid Batteries (Storage Batteries) SIC Code 2899: Manufacture of Battery Acid Preparations SIC Code 5013: Wholesale of Automotive Batteries.
Discharge Location:	Latitude: 47° 12' 45" N Longitude: 122° 14' 24" W.
Treatment Plant Receiving Discharge	City of Sumner Publicly Owned Treatment Works (POTW)
Contact at Facility	Name: Ned Noel, Distribution Center Manager Telephone #: 253-863-5134
Responsible Official	Name: Ned Noel, Distribution Center Manager Telephone #: 253-863-5134 FAX #: 253-863-6738 email: ned.noel@exide.com Address: 2005 Fryar Avenue; Sumner, WA 98390

Figure 1: Facility Location Map.



II. BACKGROUND INFORMATION

A. Facility Description

History

Exide Technologies is a Delaware corporation organized in 1966 to succeed to the business of a New Jersey corporation founded in 1888. The Company is one of the largest manufacturers of lead acid batteries in the world, with fiscal 2004 net sales of approximately \$2.5 billion. The Company's European, North American and Asia Pacific operations represented approximately 53 percent, 41 percent and 6 percent, respectively, of fiscal 2004 net sales. Exide Technologies manufactures and supplies lead acid batteries for transportation and industrial applications worldwide.

Exide Technologies Sumner Distribution Center (Exide) operates a lead acid battery distribution center in Sumner, Washington. The center also collects spent batteries and sends them to Los Angeles for further processing and recycling.

Exide is located in an 85,000 square feet leased building. The company conducts the following activities with the associated standard industrial classification (SIC) codes:

- Manufacture of Battery Acid Preparations, SIC Code 2899.

- Manufacture of Lead Acid Batteries (Storage Batteries), SIC Code 3691.
- Wholesale of Automotive Batteries, SIC Code 5013.

Exide activates and packages the batteries at the center. Pre-assembled battery casings are delivered to the site. Employees fill the casings with sulfuric acid mixtures and label, package, and distribute the batteries within the northwest region.

Process related wastewater is treated and then discharged to the City of Sumner Publicly Owned Treatment Works (POTW) sanitary sewer system. Ecology issued the previous permit for the facility on May 11, 2004 with an effective date of July 1, 2004. The permit expires on June 30, 2009. The facility submitted an application for permit renewal on December 3, 2007, and resubmitted the application with corrections on May 1, 2008. Ecology accepted the application as complete on May 14, 2008. The current permit remains effective until the permit is renewed.

Industrial Process

Pre-assembled dry lead-acid batteries are filled with sulfuric acid, formed (charged), washed, labeled, packaged, stored and shipped. The facility operates twenty hours a day, five to six days a week, fifty two weeks a year.

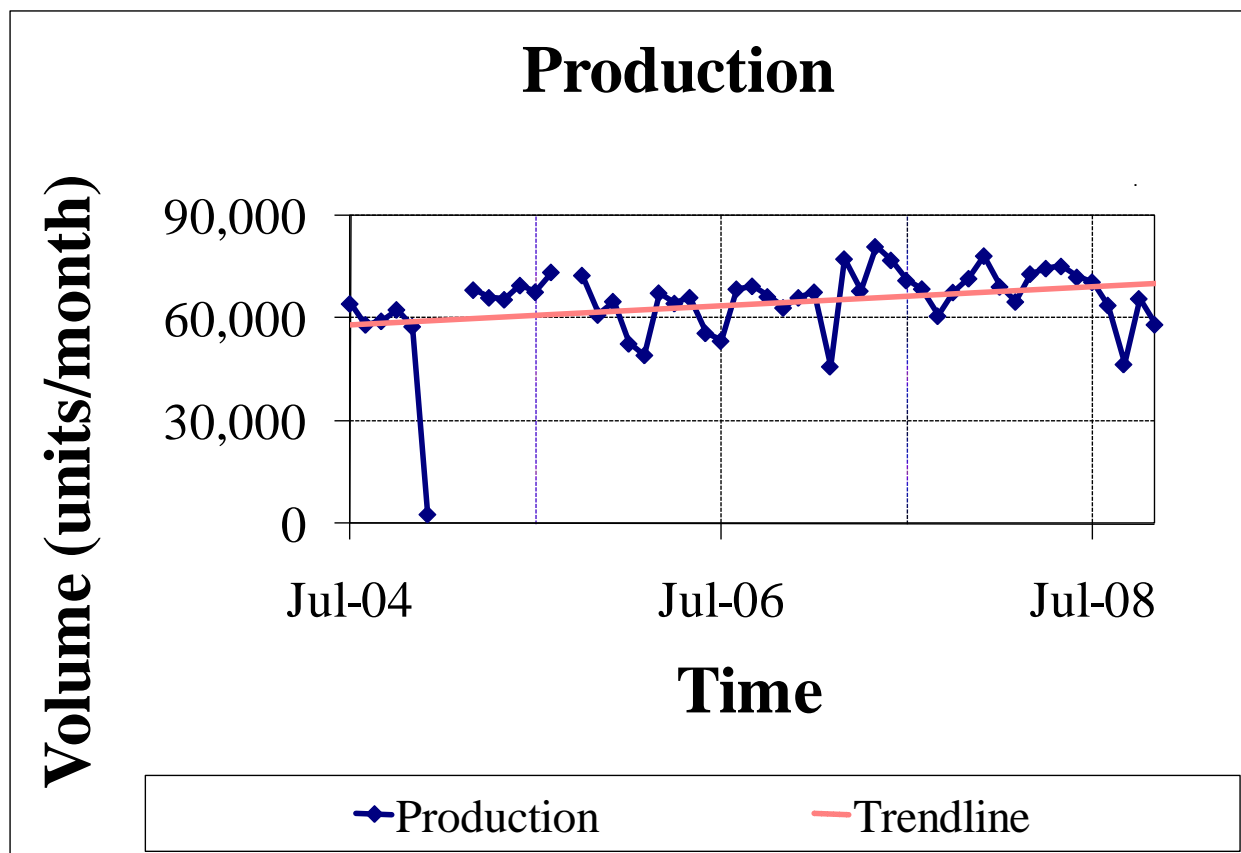
In 2006 the company used the following raw materials in the manufacture of wet lead-acid batteries: 3,588,512 pounds of sulfuric acid (98 percent) and approximately 750,000 of 30-lb and 18-lb pre-assembled dry batteries. Exide formed 749,762 wet lead acid batteries (batteries after they have been filled with acid and charged) in 2006.

Sulfuric acid is delivered by truck twice a week. Exide stores between 40,000 to 45,000 pounds of acid on site in tanks in the acid tank farm. The sulfuric acid is diluted to 30 to 32 percent before filling the dry batteries. An acid mist, formed when the batteries are charged, is directed to a wet scrubber. Wastewater generated in the scrubber is sent to the existing treatment system. Wastewater is also produced from washing the batteries upon completion of the battery charging operation. This is also directed to the treatment system following reuse of the water for several washings when the pH becomes too low for continued reuse. Other wastewater streams sent to the treatment system include: plant and equipment washdown, and acid delivery sump wastewater.

The company uses caustic soda (NaOH) and some sodium sulfide to neutralize wastewater and precipitate metals based upon the pH level of the raw wastewater. The caustic is delivered in a 3,400 pound roll-off box.

The company's production (Figure 2) has remained quite steady without any seasonal variation, though the permitting cycle with regression analysis suggesting a slight increase.

Figure 2: Production.



Exide is a significant industrial user subject to 40 CFR Part 461.34 that addresses pretreatment standards for existing sources (PSES).

Wastewater Pretreatment

Wastewater treatment consists of prescreening, metal precipitation and pH neutralization. The first step in the wastewater treatment process raises the pH to approximately 9.2 to precipitate metals. A filter press filtration follows the precipitation. Employees add caustic soda (NaOH) and some sodium sulfide, based upon pH level of the raw wastewater, to precipitate metals and neutralize wastewater. The treatment system discharges two to three weekly batches of 2,000 gallons or less.

Exide recently installed two new acid mixing tanks. Also, the company is evaluating upgrading a battery filling station to an automatically operated system. The upgrade would minimize the amount of acid spillage.

Discharge Location to the City of Sumner Publicly Owned Treatment Works (POTW)

The City of Sumner's POTW is located at 1104 Maple Street, Sumner, Washington. The POTW consists of secondary activated sludge treatment with ultraviolet light disinfection and aerobic sludge digestion. The design capacity of the POTW is as follows.

- Maximum month average flow: 4.59 MGD
- Peak day flow: 9.71 MGD

- BOD₅ loading for maximum month: 5,925 lbs/day
- TSS loading for maximum month: 5,875 lbs/day

Solid Wastes

Exide dewateres sludge generated from wastewater treatment using a filter press. After dewatering solid waste is containerized and collected for disposal as hazardous waste by:

Philip Services Corporation
18000 72nd Avenue South
Kent, WA 98032-1035

The proposed state waste discharge permit requires Exide to have an updated solid waste control plan.

B. Permit Status

Exide submitted an application for permit renewal on December 3, 2007, and resubmitted the application with corrections on May 1, 2008. Ecology accepted the application as complete on May 14, 2008.

Ecology issued the previous permit for this facility on May 11, 2004. The previous permit placed effluent limits on flow, pH, copper and lead.

C. Summary of Compliance with Previous Permit Issued

Ecology staff last conducted a non- sampling compliance inspection on April 10, 2009.

Exide has complied with the effluent limits and permit conditions throughout the duration of the permit issued on May 11, 2004 except for one instance when it discharged wastewater with a pH of 7.2 in October 2006. The permit requires pH to measure within the range of 7.5 to 10. Ecology has assessed facility compliance based on its inspections and its review of the facility's Discharge Monitoring Reports (DMRs).

D. Wastewater Characterization

Exide reported the concentration of pollutants in the State Waste Discharge application and in discharge monitoring reports (DMRs). The DMR data represents the quality of the effluent discharged from July 1, 2004. The effluent is characterized in Table 2 (application) and Table 3 (DMRs). DMR data is graphed in Appendix C. The company has never detected cadmium, mercury and oil and grease; therefore Ecology graphed and reported the method reportable levels in Appendix C and the table below.

Table 2: Wastewater characterization reported in the application.

Parameter	Units	Average	Maximum
Flow	Gallons per day (gpd)	1,829	2,000
5-day Biochemical Oxygen Demand (BOD ₅)	Milligrams per liter (mg/L)	125.8	220
Total Suspended Solids (TSS)	mg/L	30.1	54
pH	Standard units (SU)	8.5 (minimum)	9.2 (maximum)

Parameter	Units	Average	Maximum
Total Oil & Grease (O&G)	mg/L	5.0	5.0
Arsenic (total)	mg/L	0.015	0.043
Cadmium (total)	mg/L	0.0065	0.008
Copper (total)	mg/L	0.099	0.25
Lead (total)	mg/L	0.0087	0.02
Mercury (total)	mg/L	0.0002	0.0002
Nickel (total)	mg/L	0.88	1.3

Table 3: Wastewater characterization reported in the DMRs since July 2004.

Parameter	Units	Average Concentration	Maximum Concentration
Flow, maximum daily	Gallons per day (gpd)		2,300
Flow, maximum monthly	Gallons per month		19,700
5-day Biochemical Oxygen Demand (BOD ₅)	Milligrams per liter (mg/L)	171	790
Total Suspended Solids (TSS)	mg/L	30.1	74
pH	Standard units (SU)	7.2 (minimum)	9.5 (maximum)
Total Oil & Grease (O&G)	mg/L	5.0	5.0
Arsenic ¹ (total)	mg/L	0.030	0.17
Cadmium ¹ (total)	mg/L	0.005	<0.02
Copper (total)	mg/L	0.076	0.277
Lead (total)	mg/L	0.032	0.48
Mercury ¹ (total)	mg/L	0.00008	<0.0005
Nickel ¹ (total)	mg/L	0.16	0.94
Zinc ¹ (total)	mg/L	0.46	1.3
Production	Units per month	64,489	80,946

E. SEPA Compliance

Regulation exempts reissuance or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions are no less stringent than state rules and regulations. The exemption applies only to existing discharges, not to new discharges.

¹ Adjusted for suspected errors in reporting.

III. PROPOSED PERMIT CONDITIONS

State regulations require that Ecology base permit discharge limits on the:

- Technology and treatment methods available to treat specific pollutants (technology-based). Technology-based limits are set by the EPA and published as a regulation, or Ecology develops limits on a case-by-case basis (40 CFR 125.3, and RCW 90.48). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART).
- Effects of the pollutants to the POTW (local limits). Wastewater must not interfere with the operation of the POTW.
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of these limits to each parameter of concern and further describes the proposed limits below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, monitoring, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, and are not listed in regulation.

Ecology does not usually develop permit limits for pollutants that were not reported in the permit application but that may be present in the discharge. The permit does not authorize the discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent. Industries may be in violation of their permit until the permit is modified to reflect additional discharge of pollutants.

A. Technology-Based Effluent Limits

All waste discharge permits issued by Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment (AKART) of discharges to waters of the state (RCW 90.48).

Federal Categorical Limits

Existing federal categorical limits for this facility are found under 40 CFR Part 461—BATTERY MANUFACTURING POINT SOURCE CATEGORY; Subpart C—Lead Subcategory. The facility commenced operations in 1984. Ecology previously determined that Exide was an existing source subject to Pretreatment Standards for Existing Sources, 40 CFR 461.34. The following are three applicable industrial wastewater streams and corresponding pretreatment standards for existing sources (PSES) listed in the referenced tables:

1. Open Formation—Wet; **Table 4.**
2. Battery Wash—(Detergent); **Table 5.**
3. Miscellaneous Wastewater Streams; **Table 6.**

Table 4: Open Formation—Wet—Pretreatment Standards for Existing Sources (PSES).

Pollutant	Maximum for any 1 day	Maximum for monthly average
English units—pounds per 1,000,000 pounds of lead used		
Copper	0.100	0.053
Lead	0.022	0.010

Table 5: Battery Wash—(Detergent)—PSES.

Pollutant	Maximum for any 1 Day	Maximum for monthly average
English units—pounds per 1,000,000 pounds of lead used		
Copper	1.71	0.90
Lead	0.38	0.18

Table 6: Miscellaneous Wastewater Streams—PSES.

Pollutant	Maximum for any 1 day	Maximum for monthly average
English units—pounds per 1,000,000 pounds of lead used		
Copper	0.58	0.31
Lead	0.13	0.06

Exide used 18,021,783 pounds of lead in 2008. **Table 7** lists discharge allowances for copper and lead based on the 2008 lead usage.

Table 7: Copper and lead annual allowance based on the 2008 lead usage.

Pollutant	Maximum for any 1 day	Maximum for monthly average
Pounds per year		
Copper	43.1	23
Lead	9.6	4.5

Exide discharged 178,900 gallons of industrial wastewater in 2008. **Table 8** lists copper and lead limits expressed in milligrams per liter based on the annual wastewater discharge in 2008.

Table 8: Copper and lead limits based on the 2008 lead usage and industrial wastewater discharge (federal categorical limits).

Pollutant	Maximum for any 1 day	Maximum for monthly average
mg/L		
Copper	28.8	15
Lead	6.4	3.0

Performance Based Limits

Ecology evaluated performance of the treatment system based on application of statistical methods contained in Appendix E of: Technical Support Document of Water Quality-Based Toxics Control, U.S.

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EPA/505/2-90-001, March 1991. The monthly average and daily maximum performance-based-effluent limits for arsenic, nickel and zinc were calculated using the current effluent data between October 2004 and July 2008 and using the TSDCALC.XLS spreadsheet. The spreadsheet is available at <http://www.ecy.wa.gov/programs/eap/pwsread/pwsread.html>. Calculations are shown in Appendix C.

Ecology did not calculate performance based limits for mercury and cadmium since both pollutants were undetected in all samples analyzed between October 2004 and July 2008.

Ecology did not calculate the performance based limits for copper and lead either because Exide did not include method detection limits for those samples where it did not detect copper and lead. Given that the treatment technology has not changed since the performance based limits for copper and lead were calculated last time; Ecology determined it would retain the performance based limits from the previous permit. The proposed permit also requires Exide to use specific test methods with specific detection and reporting limits. The proposed permit also requires the facility to report the detection limit and the quantitation limit for these parameters. Ecology will analyze performance data for these parameters during the next permit issuance.

Table 9: Performance based limits.

Pollutant	Daily Maximum	Monthly Average
	mg/L	
Copper	0.2	0.5
Lead	0.2	0.7
Arsenic	0.1	0.2
Nickel	0.8	2.3
Zinc	1.4	2.5

The performance based limits (**Table 9**) are much more stringent than the federal categorical limits (**Table 8**); therefore Ecology has determined that the performance based limits will apply as technology based limits (**Table 10**). Federal regulations require that permits include mass based limits except under certain circumstances. Since the categorical standard mass based limits are much less stringent than performance based concentration based limits Ecology decided to only use concentration based limits. Ecology does not have a record that it has approved or that Exide has ever submitted an engineering report for its wastewater treatment facility.

Table 10: Technology based limits.

Pollutant	Daily Maximum	Monthly Average
	mg/L	
Copper	0.5	0.2
Lead	0.7	0.2
Arsenic	0.2	0.1
Nickel	2.3	0.8
Zinc	2.5	1.4

State regulation prohibits discharge of any wastewater into a sewer system having a pH less than 5.0 or greater than 11.0 unless the system is specifically designed to accommodate such

discharges (Chapter 173-216-060(2)(b)(iv)). Federal pretreatment regulations prohibit pollutants which will cause corrosive structural damage to the POTW but in no case discharges with pH lower than 5.0 unless the works is specifically designed to accommodate such discharges.

The categorical pretreatment standards for existing sources (PSES) contained in 40 CFR Part 461.34 do not contain a specific limit for pH. The existing permit includes a pH limit based on the "best practicable control technology currently available" (BPT) federal categorical limits for a lead battery manufacturer that discharges directly to surface water. This limit required that the facility maintain a pH between 7.5 and 10 at all times. The permit writer used best professional judgment to establish the pH limit based on the BPT limits for a direct discharger. The company has shown that is cannot consistently meet a pH of 7.5 therefore Ecology has decided to change the pH limit range to 6.0 to 9.0. This limit meets the state and federal prohibition described above and meets the local limits described in the section below. Ecology believes that it will protect Sumner's sewer system.

B. Effluent Limits Based On Local Limits

Ecology previously determined that pollutant concentrations in the proposed discharge with technology-based controls in place would not cause problems at the receiving POTW such as interference with activated sludge processes, pass-through, nor would it result in unacceptable pollutant levels in the POTW's sludge. Hazardous exposure conditions to POTW workers are not expected due to the discharge.

Table 11: POTW treatment requirements and prohibitions.

Pollutant	Limit
BOD ₅ , mg/L	300
TSS, mg/L	350
O&G, mg/L	100
pH, SU	Between 6.0 and 9.0

TSS and O&G concentrations are significantly lower than the local limits in **Table 11**; therefore Ecology determined that further monitoring for TSS and O&G is unnecessary. However, Exide exceeded limits for BOD₅ and pH and therefore the proposed permit limits BOD₅ and pH.

C. Comparison of Effluent Limits with Limits of the Previous Permit Issued on May 11, 2004

Table 5: Comparison of Effluent Limits with Limits of the Previous Permit Issued on May 11, 2004

Parameter	Basis of Limit	Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Flow, gallons	Application/previous limit	20,000 (monthly maximum)	2,380	20,000 (monthly maximum)	2,000
pH	Local limit	In the range of 7.5 to 10		Between 6.0 and 9.0	
Copper	Performance	0.2	0.5	0.2	0.5
Lead	Performance	0.2	0.7	0.2	0.7
Arsenic	Performance	None		0.1	0.2
Nickel	Performance	None		0.8	2.3

Parameter	Basis of Limit	Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Zinc	Performance	None		1.4	2.5
BOD ₅	Local limit	None		N/A	300

IV. MONITORING REQUIREMENTS

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly and that the discharge complies with the permit's effluent limits.

Ecology eliminated monitoring in the proposed permit for TSS, O&G, cadmium and mercury because the company either measured these parameters and levels far below the previously permitted limits or at levels below detection.

Exide must monitor Outfall 001. Outfall 001 is a location, prior to discharging to city sanitary sewer, where all process wastewater is present, but prior to mixing with facility domestic wastewater.

Ecology details the proposed monitoring schedule under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

A. Lab Accreditation

Ecology requires that facilities must use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, *Accreditation of Environmental Laboratories* to prepare all monitoring data (with the exception of certain parameters).

V. OTHER PERMIT CONDITIONS

A. Reporting and Recordkeeping

Ecology based permit condition S3. on our authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and CFR 403.12 (e),(g), and (h)).

B. Operations and Maintenance

Ecology requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). The facility must prepare and submit an updated operation and maintenance manual as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). Implementation of the procedures in the Operation and Maintenance Manual ensures the facility's compliance with the terms and limits in the permit. The proposed permit requires submission of an updated O&M manual for the entire wastewater system.

C. Prohibited Discharges

Ecology prohibits certain pollutants from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

D. Dilution Prohibited

Ecology prohibits the facility from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limits.

E. Solid Waste Control Plan

Exide could cause pollution of the waters of the state through inappropriate disposal of solid waste or through the release of leachate from solid waste.

This proposed permit requires this facility to update the solid waste control plan designed to prevent solid waste from causing pollution of waters of the state. Exide must submit the updated plan to Ecology for approval (RCW 90.48.080).

G. Spill Plan

This facility stores a quantity of chemicals on-site that have the potential to cause water pollution if accidentally released. Ecology can require a facility to develop best management plans to prevent this accidental release [section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080].

Exide developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the facility to update this plan and submit it to Ecology.

H. General Conditions

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all State Waste Discharge permits issued by Ecology.

VI. PUBLIC NOTIFICATION OF NONCOMPLIANCE

Ecology may annually publish a list of all industrial users in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters in a local newspaper. Accordingly, this permit condition informs the Facility that noncompliance with this permit may result in publication of the noncompliance.

VII. PERMIT ISSUANCE PROCEDURES

A. Permit Modifications

Ecology may modify this permit to comply with new or amended state or federal regulations.

B. Proposed Permit Issuance

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limits and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for five years.

VIII. REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations <http://www.ecy.wa.gov/laws-rules/index.html>

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Permit and Wastewater Related Information

<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>

Appendices

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to Exide. The permit prescribes operating conditions and wastewater discharge limits. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on June 9, 2008, and June 16, 2008, in *Tacoma News Tribune* to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice on September 16, 2009, in *Tacoma News Tribune* to inform the public and to invite comment on the proposed reissuance of this State Waste Discharge permit as drafted.

The Notice –

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website.).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Asks people to tell us how well the proposed permit would protect the receiving water.
- Invites people to suggest fairer conditions, limits, and requirements for the permit.
- Invites comments on Ecology's determination of compliance with antidegradation rules.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed State Waste Discharge Permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled **Frequently Asked Questions about Effective Public Commenting** which is available on our website at <http://www.ecy.wa.gov/biblio/0307023.html>.

You may obtain further information from Ecology by telephone, 360-407-6289, or by writing to the permit writer at the address listed below.

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Jacek Anuszewski, P.E.

APPENDIX B--GLOSSARY

AKART--The acronym for “all known, available, and reasonable methods of prevention, control and treatment.” AKART is a technology-based approach to limiting pollutants from wastewater discharges which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate Point of Compliance--An alternative location in the ground water from the point of compliance where compliance with the ground water standards is measured. It may be established in the ground water at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An “early warning value” must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual Average Design Flow (AADF)--The average of the daily flow volumes anticipated to occur over a calendar year.

Average Monthly Discharge Limit--The average of the measured values obtained over a calendar month's time.

Background water quality--The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of ground water at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95 percent upper tolerance interval with a 95 percent confidence based on at least eight hydraulically upgradient water quality samples. The eight samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards--National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Ecology may conduct additional sampling.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring--Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early Warning Value--The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, ground water, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement limit--The concentration assigned to a contaminant in the ground water at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a ground water criterion will not be exceeded and that background water quality will be protected.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Ground water--Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User--A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference--A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits--Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limit--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Maximum Day Design Flow (MDDF) --The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum Month Design Flow (MMDF)--The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum Week Design Flow (MWDF)--The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7.0 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Pass-through--A discharge which exits the POTW into waters of the-state in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak Hour Design Flow (PHDF)--The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak Instantaneous Design Flow (PIDF)--The maximum anticipated instantaneous flow.

Point of Compliance--The location in the ground water where the enforcement limit shall not be exceeded and a facility must be in compliance with the Ground Water Quality Standards. It is determined on a site specific basis and approved or designated by Ecology. It should be located in the ground water as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless an alternative point of compliance is approved.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film or paper, and car washes).

Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)--A calculated value five times the MDL (method detection level).

Reasonable Potential--A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge--Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid waste--All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD₅--Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD₅ test is sufficient to remove the particulate organic fraction.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

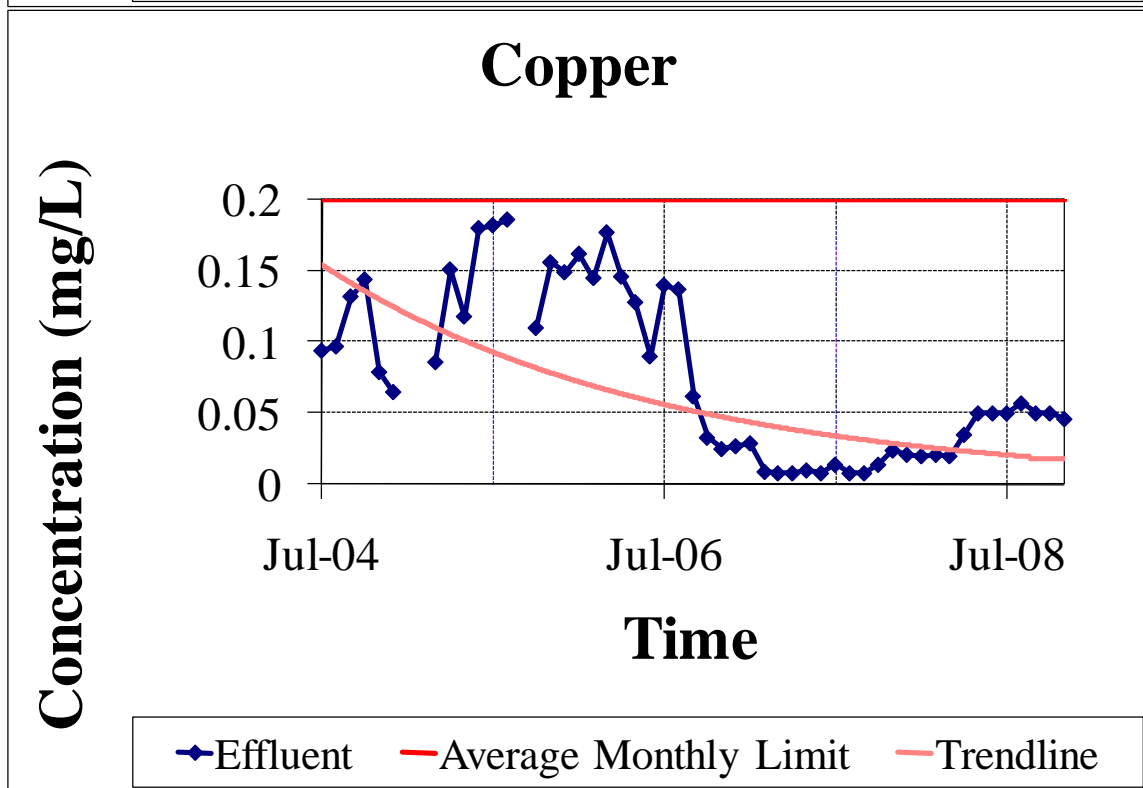
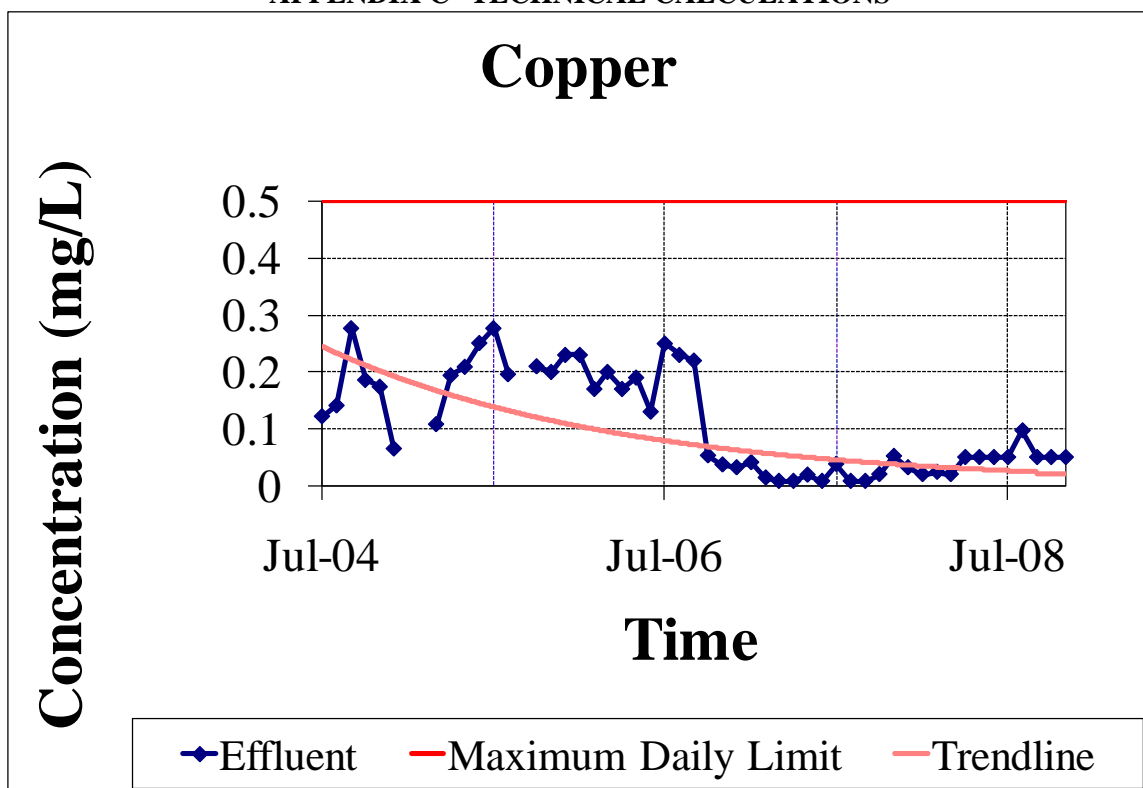
Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

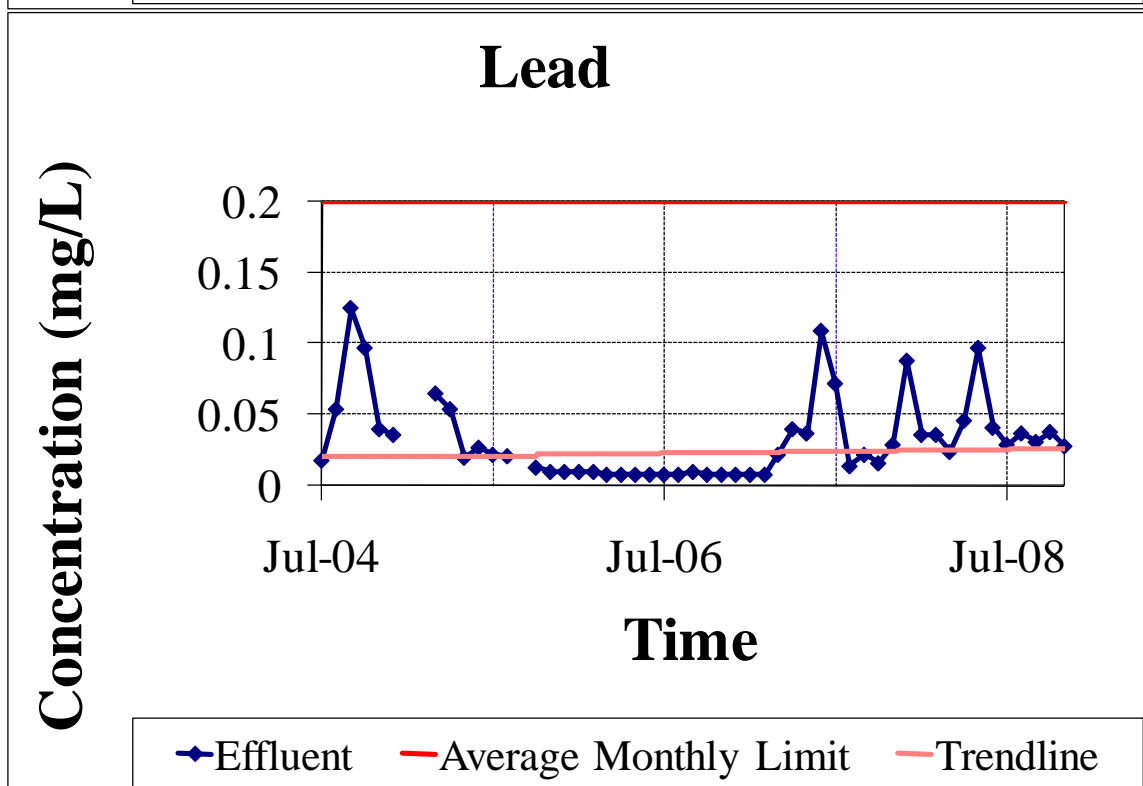
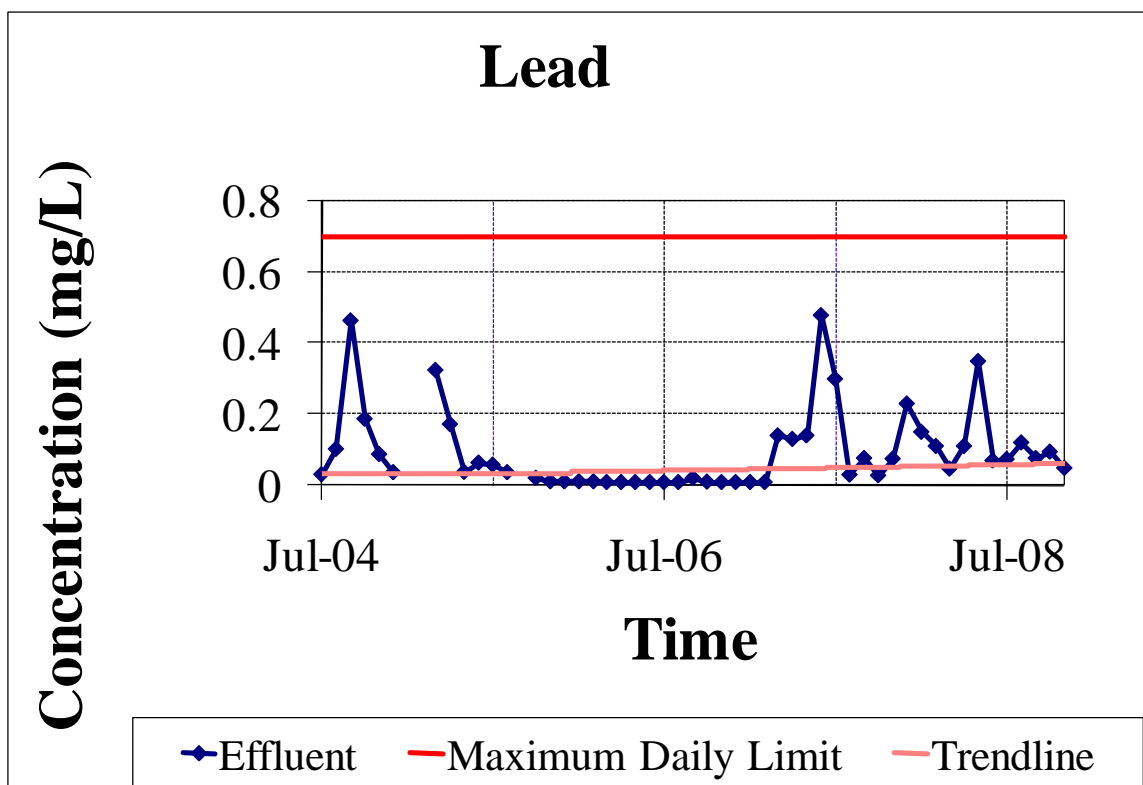
Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

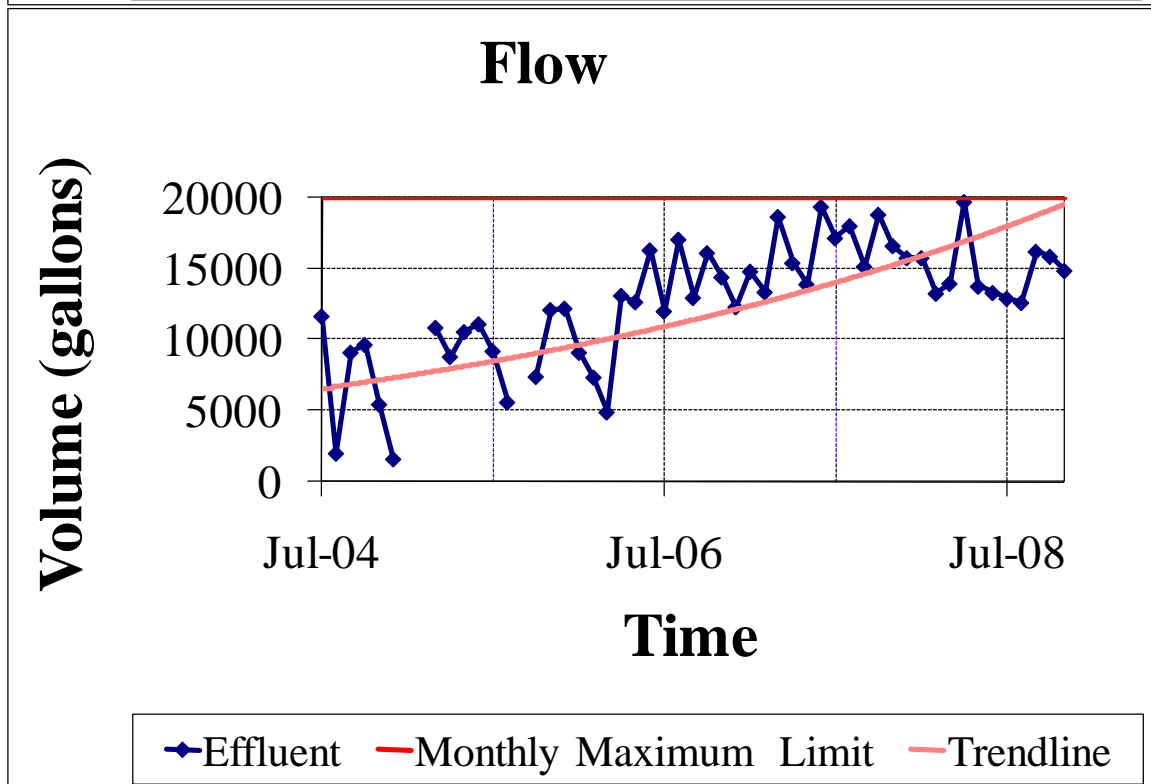
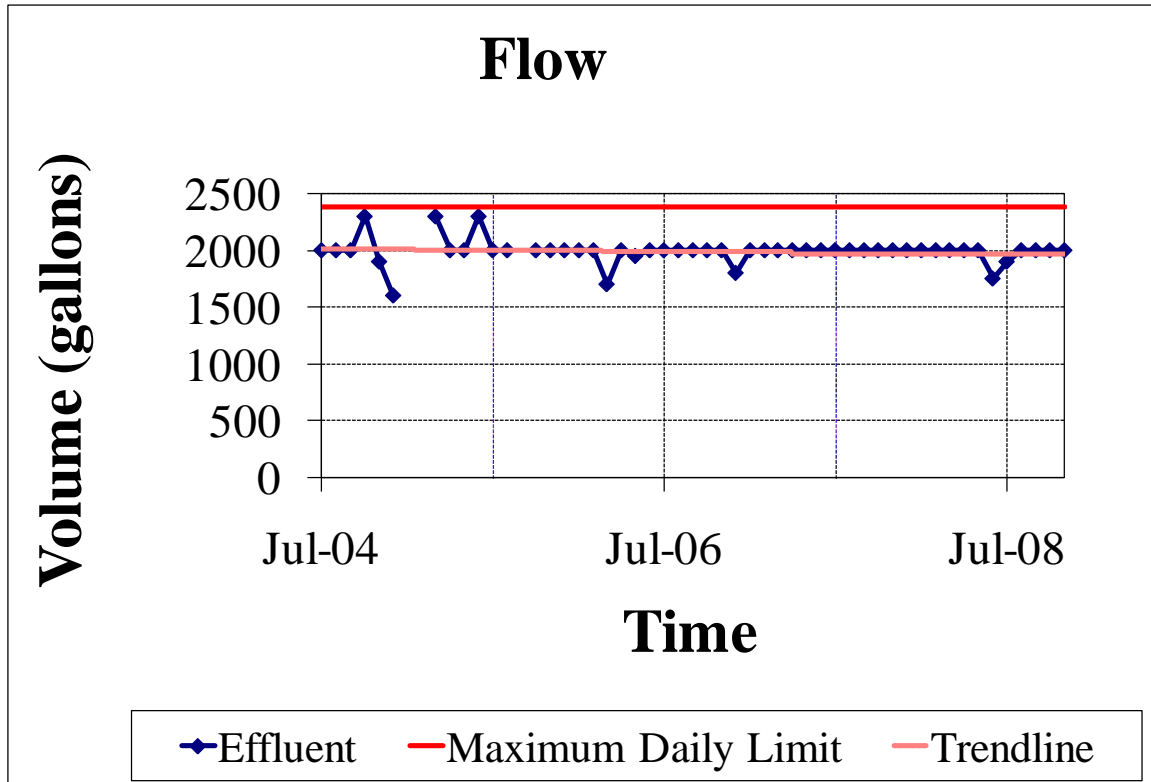
Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

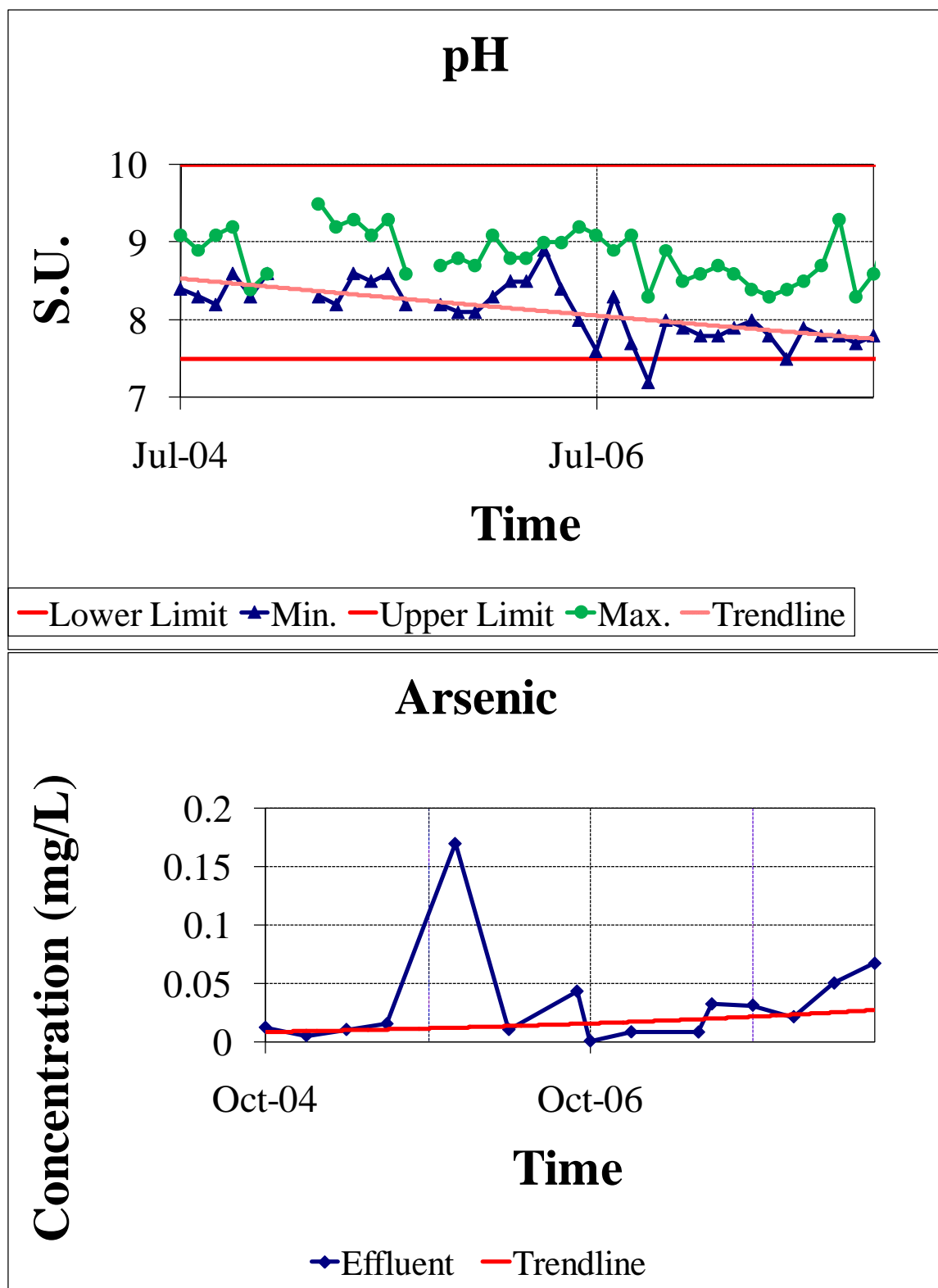
Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

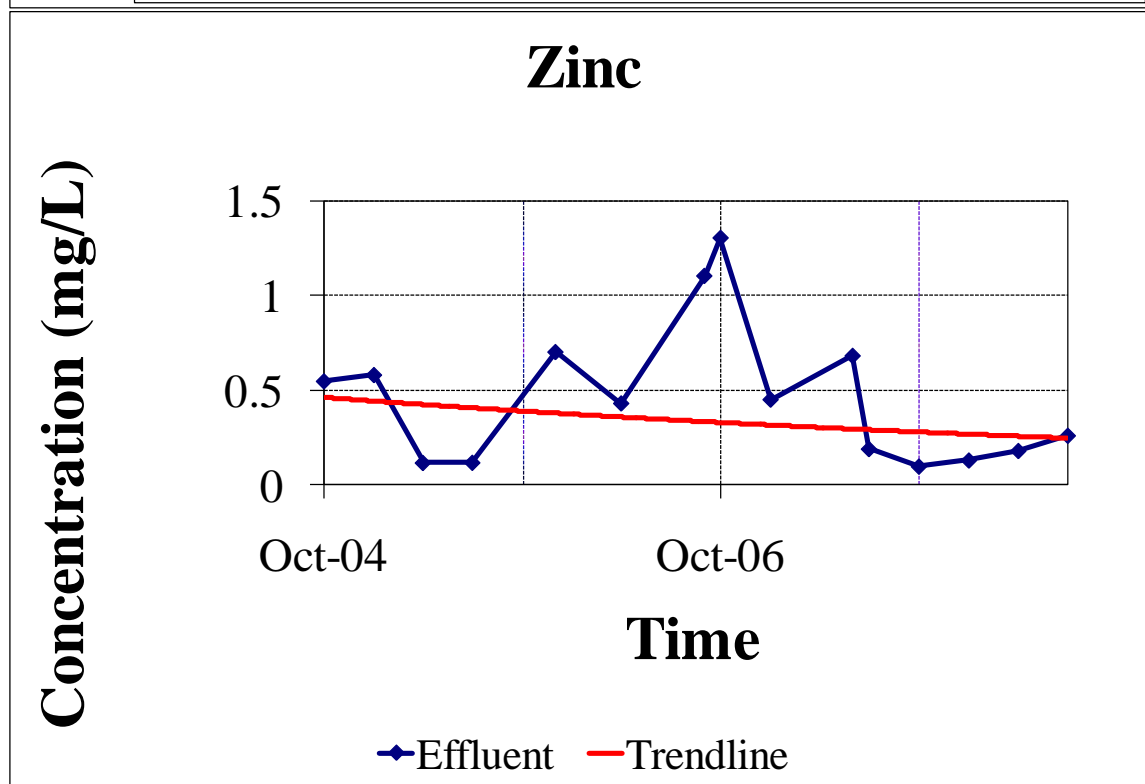
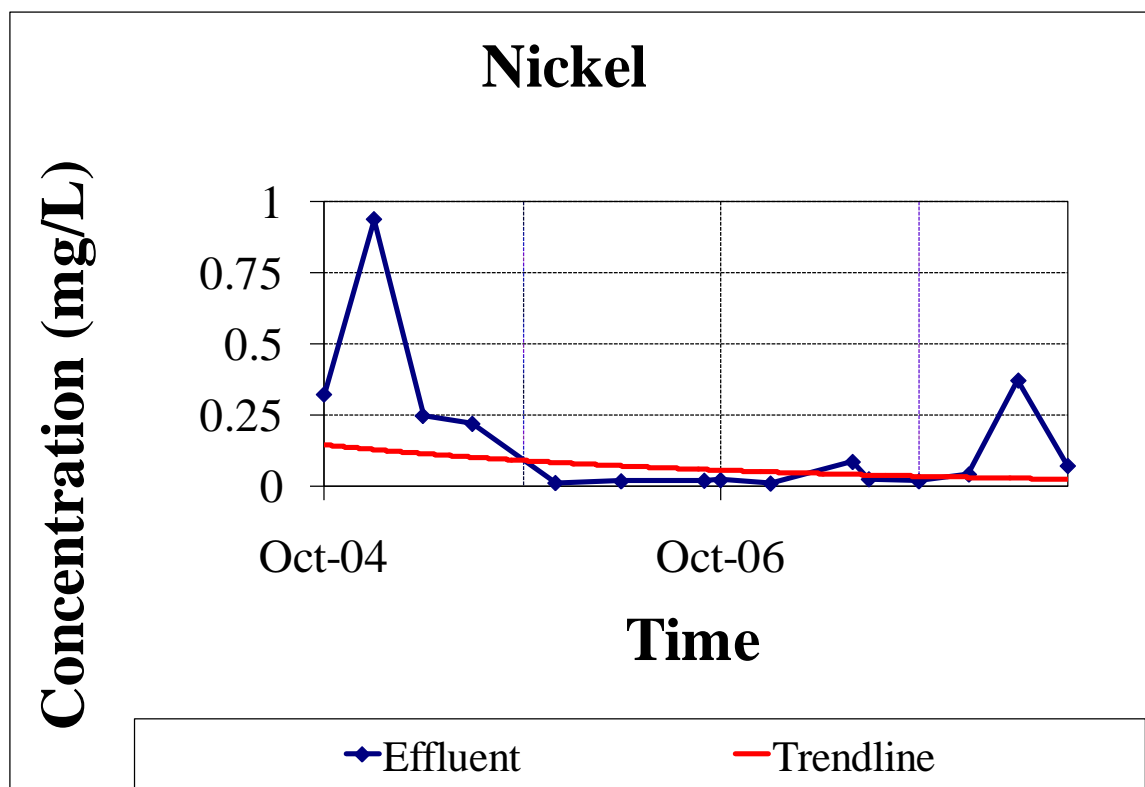
APPENDIX C--TECHNICAL CALCULATIONS

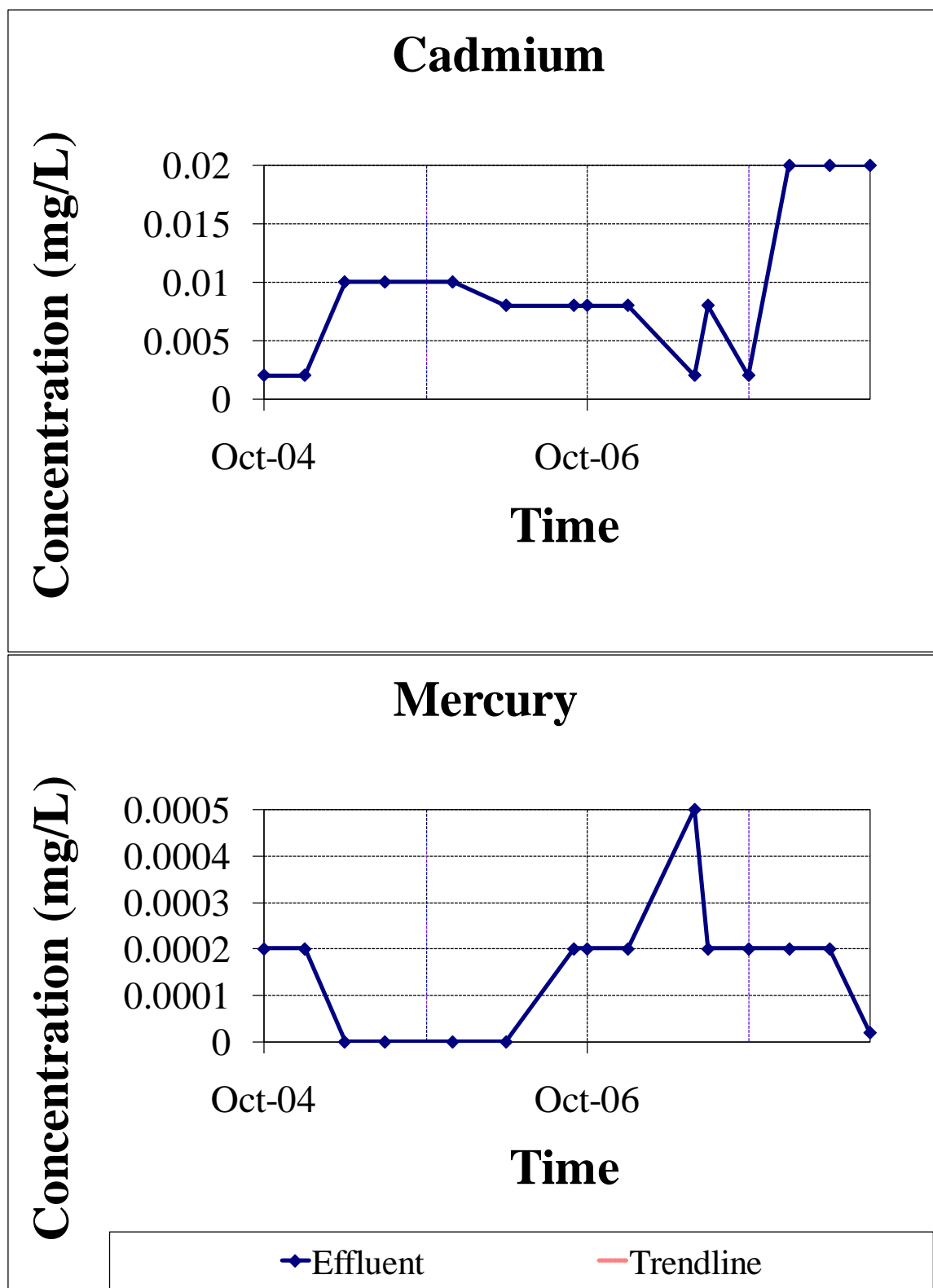


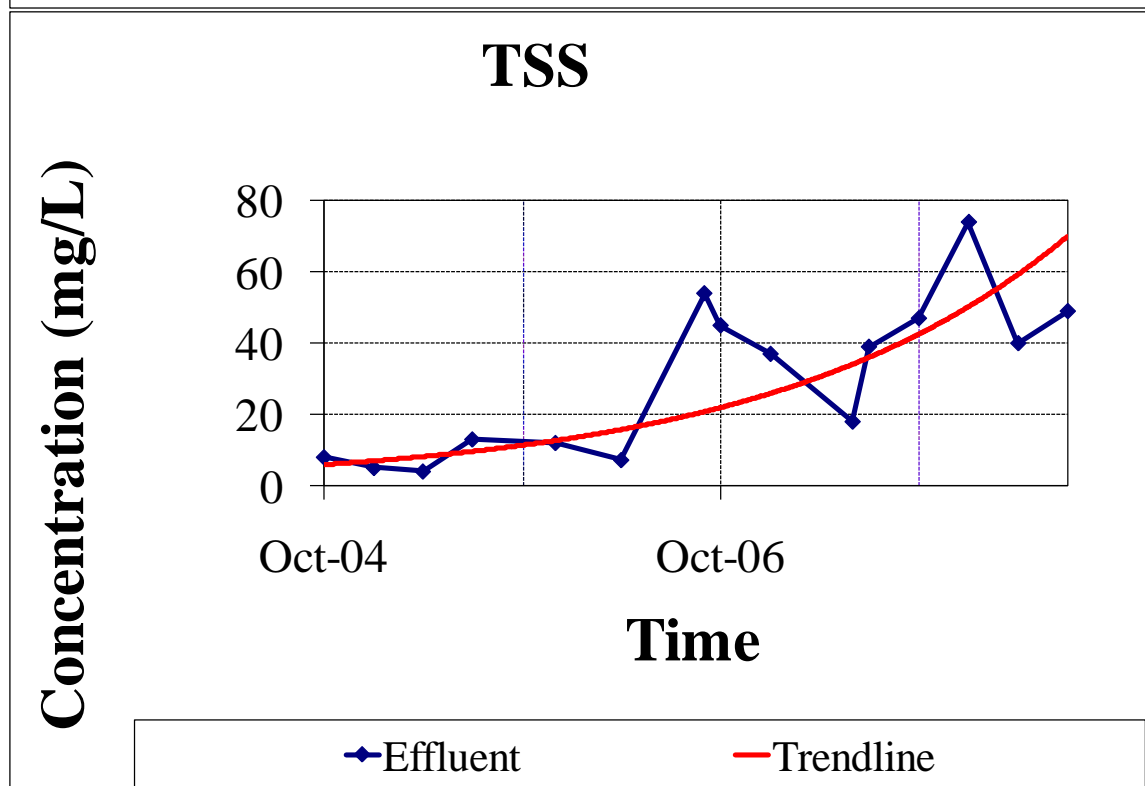
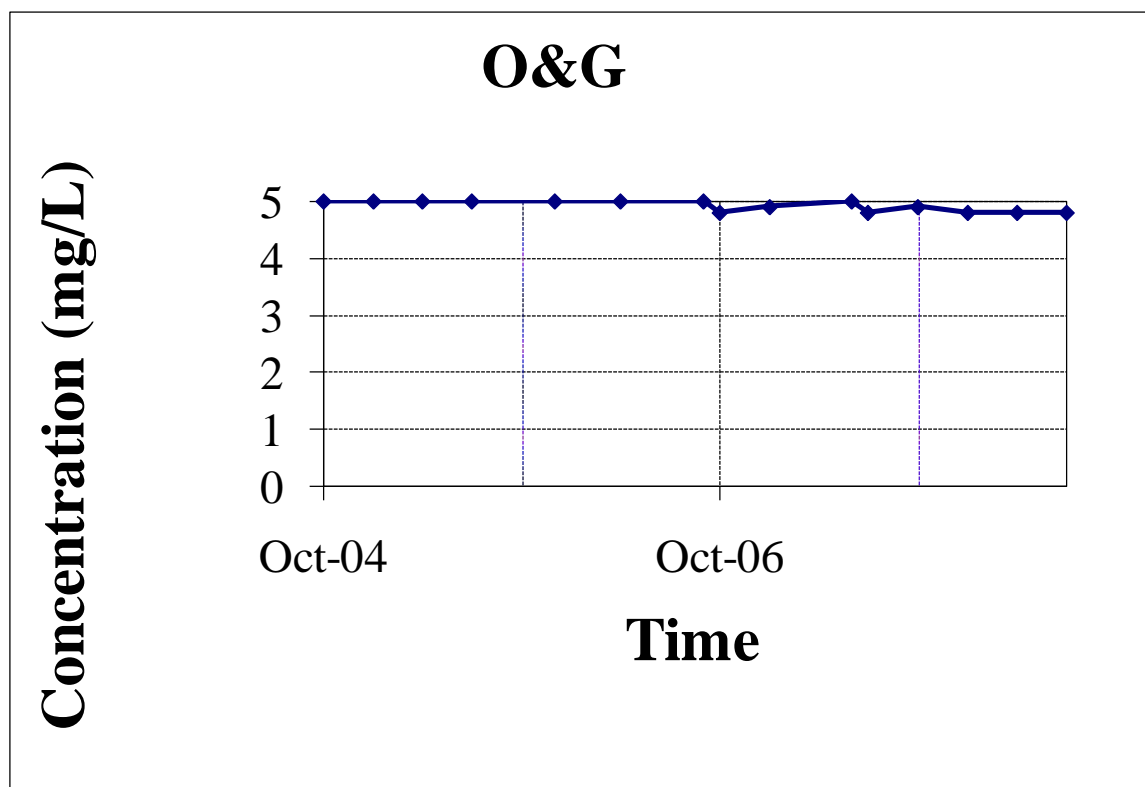


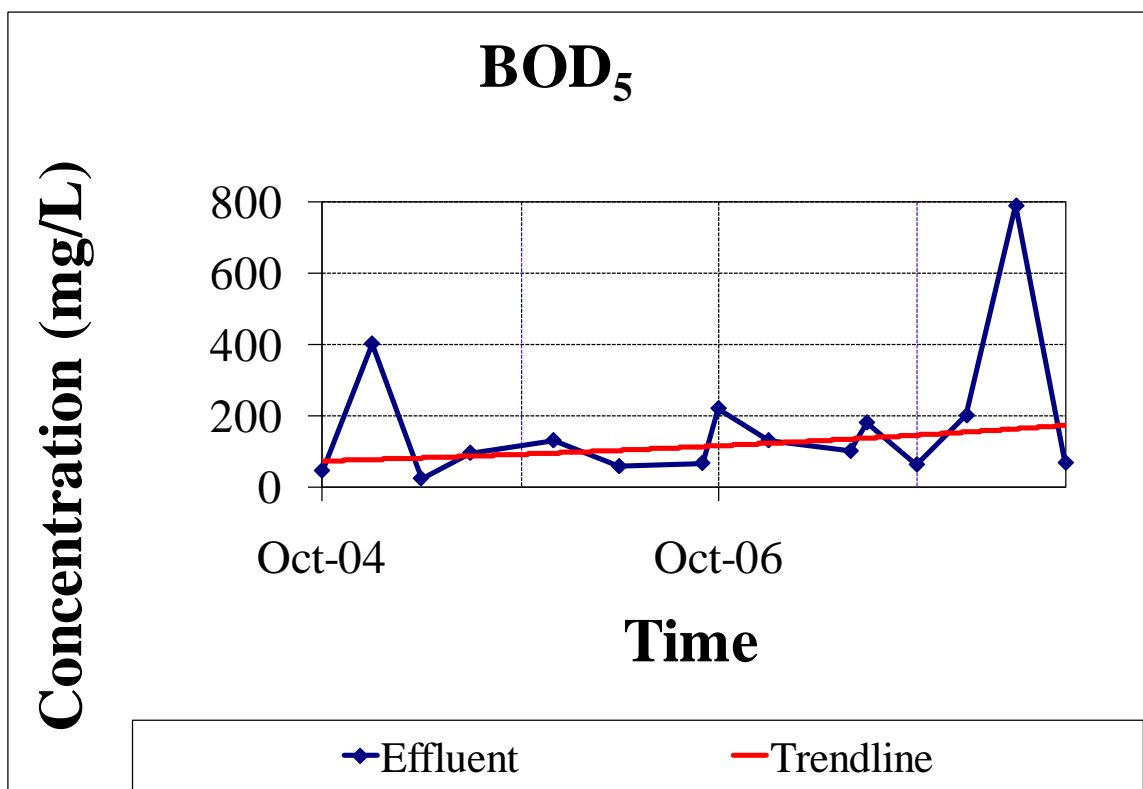






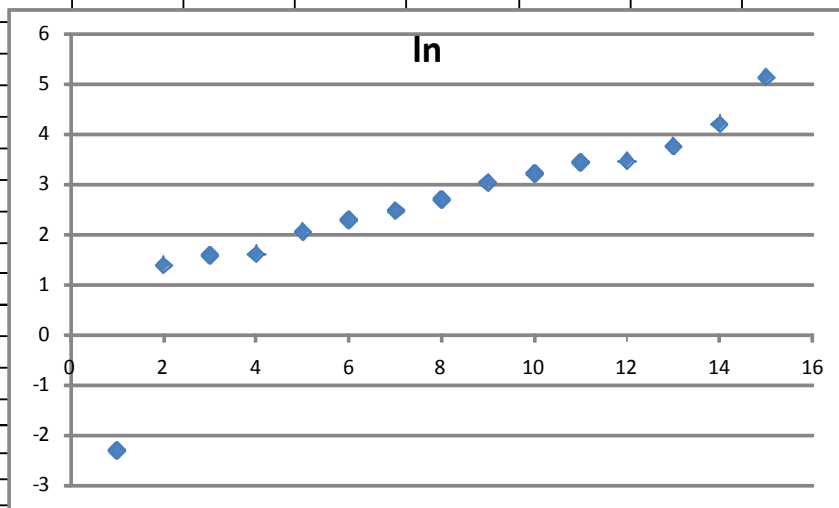
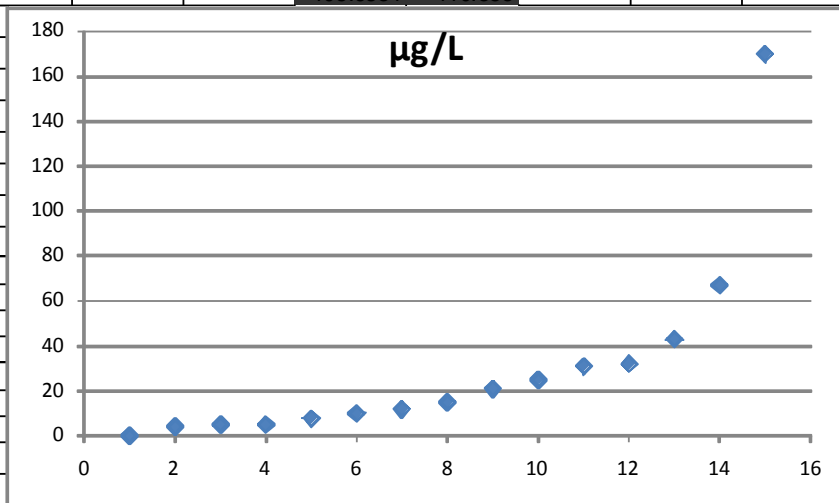






FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6026
Exide Technologies, Sumner Distribution Center

PERFORMANCE-BASED EFFLUENT LIMITS									
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION									
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE									



FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6026
Exide Technologies, Sumner Distribution Center

PERFORMANCE-BASED EFFLUENT LIMITS									
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION									
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE									
			LOGNORMAL TRANSFORMED MEAN =				4.1401		
			LOGNORMAL TRANSFORMED VARIANCE =				2.3729		
NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =							1		WPLCS
	AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =						0		µg/L
						E(X) =	205.7320	321	321
						V(X) =	411756.151	937	937
						VARn	2.3729	0.246	246
						MEANn=	4.1401	0.218	218
						VAR(Xn)=	411756.151	0.01	5
							mg/L	0.016	16
Nickel	µg/L		MAXIMUM DAILY EFFLUENT LIMIT =				2260.050	2.3	0.018
			AVERAGE MONTHLY EFFLUENT LIMIT =				791.649	0.8	0.02
			791.6491 1261.299						0.008
									0.084
									0.023
									0.016
									0.04
									0.37
									0.07
									Mean
									Max
									µg/L
									ln
									4
									5
									16
									16
									16
									18
									20
									23
									40
									70
									84
									218
									246
									321
									370
									937
									Mean
									Variance

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST 6026
Exide Technologies, Sumner Distribution Center

PERFORMANCE-BASED EFFLUENT LIMITS					
USE EXCEL TO PERFORM THE LOGNORMAL TRANSFORMATION					
AND CALCULATE THE TRANSFORMED MEAN AND VARIANCE					
			LOGNORMAL TRANSFORMED MEAN =	5.8046	
			LOGNORMAL TRANSFORMED VARIANCE =	0.7398	
			NUMBER OF SAMPLES/MONTH FOR COMPLIANCE MONITORING =	1	
			AUTOCORRELATION FACTOR(ne)(USE 0 IF UNKNOWN) =	0	
			E(X) =	480.3440	
			V(X) =	252749.595	
			VARn	0.7398	
			MEANn=	5.8046	
			VAR(Xn)=	252749.595	
Zinc	µg/L		MAXIMUM DAILY EFFLUENT LIMIT =	2453.324	mg/L
			AVERAGE MONTHLY EFFLUENT LIMIT =	1365.773	2.5
			1365.773 1307.355		1.4

µg/L	ln
98	4.584967
117	4.762174
118	4.770685
130	4.867534
180	5.192957
190	5.247024
260	5.560682
430	6.063785
450	6.109248
546	6.302619
579	6.361302
680	6.522093
700	6.55108
1100	7.003065
1300	7.17012
Mean	5.804622
Variance	0.73976

APPENDIX D—RESPONSE TO COMMENTS